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Smart vending machine by  
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## THE REALITIES OF RENAL CARE

Caring for your kidneys

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ISSUE 3 2023

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# THE REALITIES OF Renal Care

Gain a deeper understanding of our kidneys, their functions, common conditions associated with these organs, and how the Changi General Hospital (CGH) team cares for patients with kidney conditions.

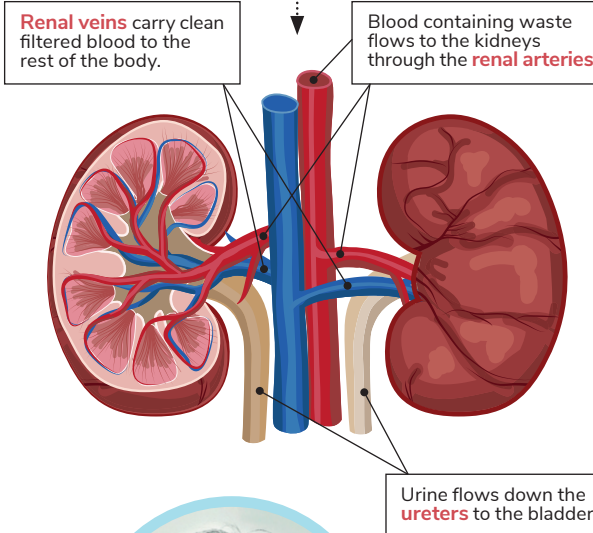
**Constantly hard at work and vital for life**

By Dr Mabel Tan, Associate Consultant, Department of Renal Medicine, CGH

The kidneys are two bean-shaped organs, each about the size of a fist. They filter blood to maintain the overall health and acid-base balance of the human body. Each kidney consists of one million little filtering units known as nephrons. These are microscopic structures that carry out the cleansing process and produce urine.

Understanding their multifaceted function underscores the need to prioritise their health through a balanced diet, proper hydration and regular exercise.

**KIDNEY ANATOMY**  
RIGHT KIDNEY (CROSS-SECTION) LEFT KIDNEY



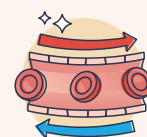
Dr Mabel Tan,  
Associate Consultant,  
Department of Renal  
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## FUNCTIONS OF THE KIDNEY



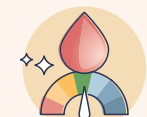
### FILTRATION AND WASTE REMOVAL

The kidneys are responsible for filtering and cleansing the blood of metabolic waste products, excess water and toxins. Approximately 200 litres of blood pass through the kidneys each day. As blood flows through, many substances get filtered into the tubules. These tubules re-absorb substances the body needs – such as nutrients – back into the bloodstream, while excreting waste materials in the form of urine.



### REGULATION OF FLUID AND ELECTROLYTE BALANCE

Maintaining the right balance of fluids and electrolytes in the body is crucial for proper cell function. The kidneys help regulate this balance through various mechanisms. The antidiuretic hormone (ADH), produced by the pituitary gland, signals the kidneys to re-absorb water when the body is dehydrated. Additionally, the kidneys regulate electrolyte levels in the body (e.g., sodium, potassium, calcium) by selectively re-absorbing or excreting them as needed.



### ACID-BASE BALANCE

The kidneys play a vital role in maintaining the body's acid-base balance. They help remove excess acids and maintain acceptable pH levels in the blood for normal cell function.



### HORMONE PRODUCTION

The kidneys produce several essential hormones, one of which stimulates the bone marrow to produce red blood cells, ensuring adequate oxygen delivery to tissues. Another hormone the kidney produces helps regulate calcium and phosphate levels in the body, promoting bone health.



### BLOOD PRESSURE REGULATION

The kidneys also help the body regulate its blood pressure. When your blood pressure drops, special cells in the kidneys release an enzyme called renin that triggers a cascade of events that leads to increased blood volume and blood pressure.



# CHRONICLES OF KIDNEY DISEASE

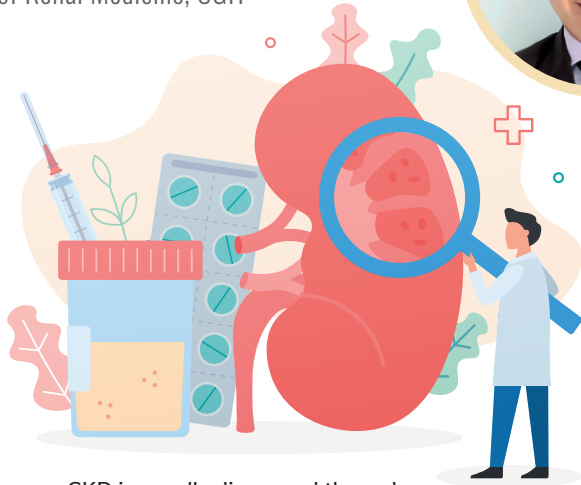
By Dr Charles Ng, Associate Consultant, Department of Renal Medicine, CGH



**C**hronic kidney disease (CKD) is a condition where there is abnormal kidney structure or function for more than three months. Without the kidneys' ability to properly function, patients can develop multiple health problems, such as high blood pressure and water retention. If left untreated, the kidneys gradually deteriorate and can stop working completely. CKD is usually diagnosed through blood and urine tests. The stage of the condition is determined based on its severity. The more advanced the stage of the CKD, the higher the risks of cardiovascular events, such as stroke, heart attack and the need for life-long kidney replacement therapy.

## Causes of chronic kidney disease

Diabetes is the most common cause of CKD globally and in Singapore. With an increase in sedentary lifestyles and easy access to hawker food that is often high in salt and fat, it is no wonder that Singapore's diabetes burden is on an upward trend, which mirrors that of CKD. Other major risk factors for CKD include hypertension, cardiovascular disease and obesity. Typically, symptoms of CKD do not occur until the more advanced stages. These include breathlessness, leg swelling, loss of appetite, nausea and itch. It is important to screen those at risk so that CKD can be detected early and steps



CKD is usually diagnosed through blood and urine tests.

can be taken to slow down its progression. A common misconception among patients is using back pain as an indicator of CKD — but this is not reliable.

## Slowing the progression of CKD

The overall management of CKD involves treating its underlying causes, taking measures to slow down its progression, treating complications in the more advanced stages and eventually preparing for kidney replacement therapy.

Dietary and lifestyle modifications play an important role in slowing down CKD progression. These include adhering to a low-salt diet, avoiding high-protein intake and maintaining a healthy body mass index (BMI). To put things into perspective, one plate of *char kway teow* contains 1.4g of sodium, which is already more than half of the recommended 2g per day. Blood pressure and diabetic control are also crucial, and newer medications have been shown to have an added advantage of slowing down CKD progression.



Dietary and lifestyle modifications play an important role in slowing down the progression of CKD.

To protect the kidneys, nephrotoxins — medications that can potentially harm the kidneys — should be avoided. These include non-steroidal anti-inflammatory drugs (NSAIDs). It is not recommended for patients with CKD to take herbal remedies and over-the-counter supplements as their effects on the kidneys are unknown and may be potentially harmful. In addition, some medications, especially antibiotics, need to be adjusted according to kidney function as high drug levels can also affect the kidneys. It is important to inform your general practitioner (GP) if you have been diagnosed with CKD so that they can prescribe and dose medications appropriately.

CKD complications usually develop during the advanced stages. One such complication is anaemia, which occurs when there are insufficient red blood cells in the body. As red blood cells carry oxygen from the lungs to the rest of the body, anaemia can cause patients to be lethargic, look pale and feel breathless. Anaemia can be treated with medications that help the body produce more red blood cells. Iron supplementation will also help make this process more efficient. This can be administered through injections or pills.

## End-stage renal failure

As CKD progressively worsens over time, the kidneys eventually stop working sufficiently to sustain life. Patients will then need to consider kidney replacement therapy (KRT) through dialysis or kidney transplantation. The CGH care team starts preparing for KRT before the patient reaches end-stage renal failure as the preparation process takes time. Kidney transplantation offers the best overall chance of survival and if suitable, should ideally be pursued even before a patient goes on dialysis.

If a kidney transplant is not feasible, dialysis options include haemodialysis or peritoneal dialysis. Both forms of dialysis offer similar outcomes, but one might be more suitable, based on the patient's preference and concurrent health issues.

In patients who are frail or have other life-limiting conditions such as advanced heart failure, non-dialytic therapy is a reasonable option as dialysis might potentially cause more harm than good. For these patients, the focus would be on optimising medical therapy and palliative care.

## Preventing CKD

Can CKD be prevented? Yes! Some measures include ensuring adequate hydration, adopting a low-salt diet, controlling risk factors such as diabetes and hypertension, and avoiding unnecessary nephrotoxins, herbal remedies or over-the-counter supplements. People at risk should undergo regular screening so that any potential CKD can be identified early, and appropriate care management can be optimised.

## SYMPTOMS OF CHRONIC KIDNEY DISEASE

Typically, patients do not develop symptoms of CKD until it becomes more advanced.



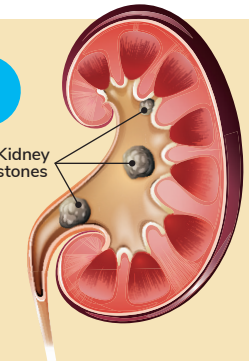
## DID YOU KNOW?

Singapore has the highest prevalence of CKD among Asian countries with 34.3% of its adults, or **1.67 million** people, living with CKD in 2020.



## KIDNEY STONES

By Dr Yeon Wenxiang, Consultant, Department of Renal Medicine, CGH



Kidney stones (nephrolithiasis) is another common kidney issue, with up to 10 per cent of Singaporeans experiencing a symptomatic kidney stone in their lifetime.

Kidney stones are usually formed when urine becomes concentrated, causing mineral deposits to group together and become crystals that form stones. The kidney stone enlarges over time as more crystals form. Patients with kidney stones may experience an excruciating loin to groin pain and, as well as blood in the urine, nausea and vomiting, fever and chills, and unusually smelly urine.

Persons who have had prior kidney stones are at an increased risk of having a recurrence of the condition. Staying well-hydrated by drinking at least eight glasses of water per day, adding fresh lemon juice to your water, and avoiding salty food can help prevent renal stone formation. Depending on the type of stones a person has, doctors may also advise patients to reduce their intake of certain types of food.





# INTEGRATED CARE FOR PATIENTS WITH KIDNEY CONDITIONS

## Caring for you at CGH

Approximately 200 patients are initiated on dialysis every year at CGH. The Department of Renal Medicine at CGH provides comprehensive inpatient and outpatient renal services for patients, including acute and chronic haemodialysis, peritoneal dialysis and plasma exchange treatments on top of consultation services to intensive care units and surgical patients.

To empower patients to take control of their health, the CGH renal team encourages and supports patient autonomy in the decision-making of their long-term dialysis decisions. Each option has its pros and cons. For example, peritoneal dialysis is a home-based treatment that offers better quality of life and preservation of residual kidney functions. "CGH is one of the few hospitals in Singapore offering a minimally invasive peritoneal dialysis catheter insertion," says **Clinical Assistant Professor Sreekanth Koduri, Chief and Senior Consultant, Department of Renal Medicine, CGH**. "The team also has close links with the community haemodialysis units and provides medical, nutritional and social support to all the patients under its follow-up care."

## Enhancing quality of life

In Singapore, the prevalence of CKD among seniors has been steadily increasing over the past decade. In early-2023, CGH established its comprehensive multi-disciplinary CKD clinic for seniors, an initiative designed to enhance the quality of life for this vulnerable population by providing integrated care.

The multi-disciplinary care team of nephrologists, geriatricians, renal nurses, dietitians, pharmacists, physiotherapists and medical social workers provides holistic care that focuses not only on the physical health of patients but also on their mental well-being and social support needs. This integrated approach ensures that patients receive personalised treatment plans that consider their unique circumstances and medical history.

One of the key features of the clinic is its emphasis on the early detection and prevention of CKD. "By detecting the disease early on, the care team can implement appropriate interventions to slow its progression and improve patient outcomes," says **Clinical Assistant Professor Roy Debajyoti Malakar, Senior Consultant, Department of Renal Medicine, CGH**. "The clinic also places significant emphasis on educating patients and their caregivers about CKD management, lifestyle modifications, and the importance of adherence to prescribed treatment plans."

The clinic has also established partnerships with various community organisations and support groups to create a network of resources for patients and their families. This collaborative approach enhances the social support available to patients and fosters a sense of belonging among the senior CKD patients, reducing feelings of isolation and improving their overall well-being.

## A PATIENT'S JOURNEY IN CGH

- 1 When a patient experiences end-stage renal failure, a renal coordinator will speak to the patient to share the options available, including advice on financial and advance care planning.
- 2 Dialysis is one of the options available in the treatment of end-stage renal failure. If needed, the renal doctor will initiate urgent haemodialysis via a catheter inserted at the neck or groin. For long-term haemodialysis, the preferred dialysis access is an arterio-venous fistula (a connection between an artery and a vein), which is created by vascular surgeons in an operation.
- 3 The patient will then undergo a few treatment sessions at the CGH Renal Dialysis Centre until his/her condition stabilises. For patients who choose peritoneal dialysis, after receiving training at CGH, they will continue treatment at home.
- 4 During the dialysis sessions, the renal nurses will educate the patients on their fluid and dietary intake and care of their renal dialysis access.
- 5 The renal coordinator will counsel and work with the patients and their families on their long-term plans. This includes sourcing for dialysis centres to support their continuity of treatment in the community.

## Living with CKD

Mr Tam Hon Yuen was walking to a restaurant one day in Manchester, England, when he felt very breathless and tired, and his colleagues commented that he looked very pale. Suspecting that something was amiss, Mr Tam, in his 50s at that time, decided to see a doctor upon returning to Singapore.

Through a series of blood tests, Mr Tam was diagnosed with chronic kidney disease (CKD). Initially, Mr Tam joined an international clinical trial for a new kidney medicine, which helped regulate his condition, keeping it stable. After the clinical trial, the medicine became one of the options available to patients with CKD. A few years later, Mr Tam's kidney condition deteriorated further to end-stage kidney disease, and through conversations with **Dr Ng Chee Yong, Consultant, Department of Renal Medicine, CGH**, it was determined that Mr Tam should commence dialysis as soon as possible.

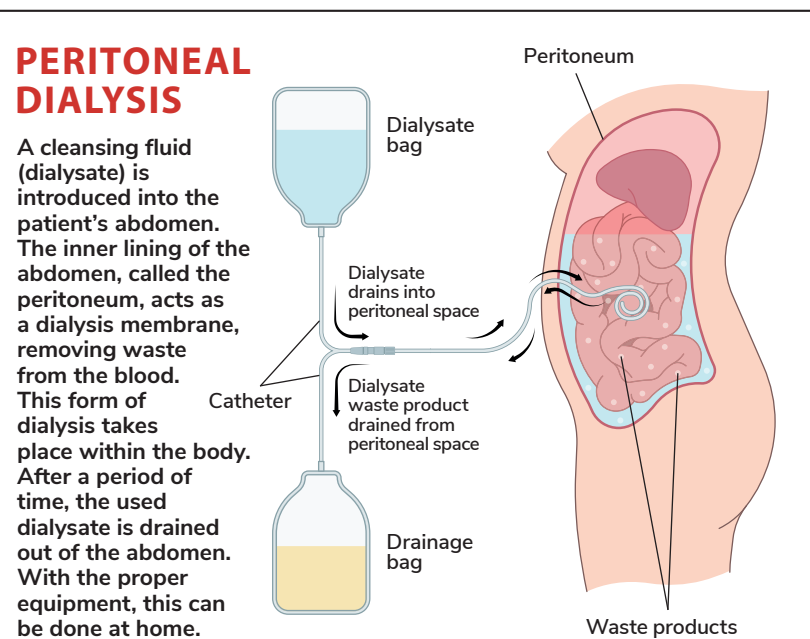
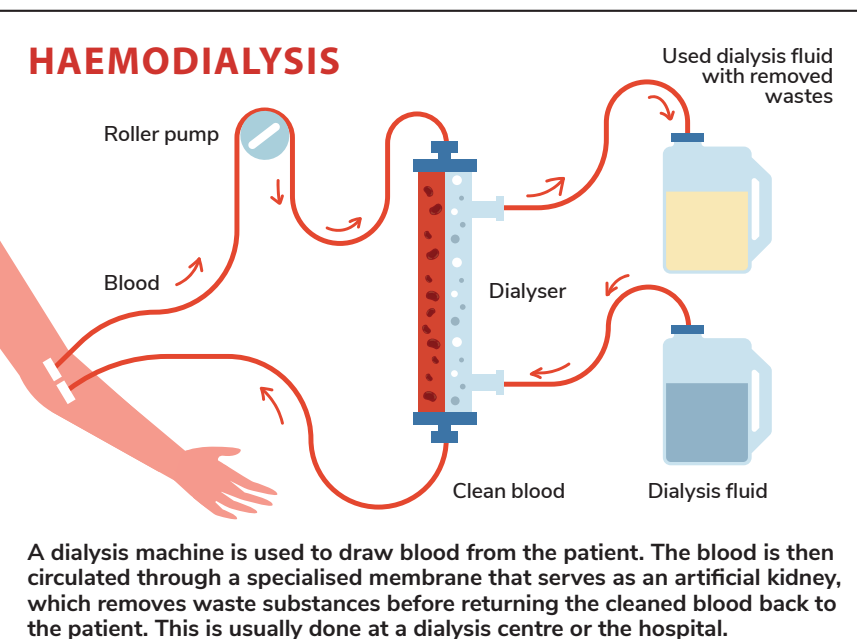
In what was a pleasant surprise for Mr Tam, now 65, the doctors were able to insert the catheter for him in only four days. While it was initially quite painful and uncomfortable, it was necessary for Mr Tam to receive treatment for his CKD. Mr Tam opted for peritoneal dialysis, which enabled him to carry out his dialysis every night at home with the peritoneal dialysis machine.

With a firm belief that his health is his responsibility, Mr Tam ensures that his peritoneal machine is clean and well-kept, allowing him to carry out the dialysis that takes nine hours every night. While being hooked up to the machine does cause him some difficulty in sleeping, after one year, Mr Tam has started to get used to it and is feeling good. "CKD may be a downhill slope but hopefully, it is a gentle slope for me," says Mr Tam.

Although dialysis has affected Mr Tam's lifestyle to a certain degree, he feels that it is a blessing to be able to receive this treatment. "There is no point feeling upset," says Mr Tam. "I just carry out the dialysis and continue living." While he is unable to travel to see his grandchildren, who are based overseas, Mr Tam is content with his life and appreciates being able to keep in touch with them through video calls.

Through the years, Mr Tam has had good experiences with the care team at CGH. "Dr Ng has been very understanding and conscientious. I am very grateful to have him as my renal doctor," he shares. "The renal nurses have also been very dedicated and diligent in their care for me. The renal clinic counter staff have been excellent in providing care for not just me, but the other patients at the clinic as well."

On his advice for others who might be facing the issue of kidney disease, Mr Tam says, "Go for check-ups, do the full set of bloodwork and find out what the issue is. It would be even better to start these check-ups when you are young, as prevention is better than treatment."



Read more  
about kidney  
dialysis here.



# ALL-ENCOMPASSING CARE

The renal services in CGH are provided by a multi-disciplinary team, to ensure that patients with kidney conditions receive holistic care in their management of the condition. Members of CGH's care team share more about their role.

## Providing crucial nursing care

CGH's renal nurses play an important role in supporting patients with end-stage renal failure who require dialysis support. For patients who are beginning haemodialysis, the renal nurses assist the physicians in inserting a catheter (temporary dialysis access) to create an access for the dialysis. The nurses will then commence the dialysis treatment for the patient. They also educate patients on how to care for the catheter and how to look out for signs of possible access complications.

"As many of our newly-initiated patients express anxiety and fear during the treatment, our nurses often spend time explaining the procedure to the patients so that they can better understand the process," says Ms Wang Hwee May, Nurse Clinician, CGH. "When a patient's condition is stabilised and he or she is ready to be discharged, we will then communicate with the renal coordinator to arrange for a step-down dialysis centre in the community for the patients to continue their dialysis there."



Ms Wang Hwee May, Nurse Clinician, CGH, trains her fellow renal nurses on how to operate a dialysis machine.

For patients who opt for peritoneal dialysis as their long-term treatment mode, the renal nurses will prepare them for the treatment and educate them on the procedure so that they can continue with the dialysis at home. This involves subsequent follow-ups and arranging for the dialysis consumables to be delivered to patients' homes.

CGH's renal nurses are competent in using both the haemodialysis and peritoneal dialysis machines. The nurses

are also trained to measure the status of patients' body fluids using a Body Composition Monitor.

**Coordinating care**  
"As renal coordinator, I am responsible for coordinating care for patients with chronic kidney disease," shares Ms Hirnani Bte Hamid, Renal Coordinator, CGH. "Our role is to help them navigate their treatment journey through education and counselling."

CGH's renal coordinators, who



Ms Hirnani Bte Hamid, Renal Coordinator, CGH, introduces a patient to a peritoneal dialysis catheter.

are allied health professionals, empower patients with the knowledge to make their own decisions regarding dialysis, kidney transplantation and advance care planning. "Working closely with the renal doctors and nurses, we are then able to speak to patients and their family members on their dialysis options and their benefits, so that they can discuss and weigh their choices. We are also involved in patient discharge planning and arranging dialysis placement at centres in the community."

As renal coordinators also counsel patients who have been recently diagnosed with kidney disease, it can be difficult to break the news to them, and inform them of the need to start dialysis as soon as possible. "We provide a listening ear, address their concerns, and help them overcome their fears," she says.

## Managing CKD through medication

In the inpatient ward setting, renal pharmacists join the doctors for morning rounds and provide individualised pharmacotherapy recommendations based on the patients' kidney functions.

"Renal pharmacists counsel new haemodialysis patients on their new medications and medication changes. This is vital, as these patients often have complex medication regimens and are usually started on new medications when they begin haemodialysis," says Ms Karmen Quek, Senior Clinical Pharmacist, CGH.

"Patients are appreciative of this service, and we equip our patients with knowledge of their medications as they embark on their dialysis journey."

For outpatient care, the renal doctors refer their patients to



Ms Karmen Quek, Senior Clinical Pharmacist, CGH, equips patients with knowledge of their medications on their dialysis journey.

the renal pharmacists, who run clinics where they adjust medications to optimise care for patients with hypertension, anaemia, mineral bone disorder and those undergoing haemodialysis. "As pharmacists, we are able to prescribe the appropriate medications until the next doctor's visit." The CGH renal pharmacists also work closely with the renal nurses in both inpatient and outpatient settings to address the patients' medication enquiries.

## Diets to deter the deterioration

"As a dietitian, I provide evidence-based medical nutrition therapy for patients with diabetic kidney disease to assist them in managing their condition," says Ms Lee Dao Xin, Dietitian, CGH.

This is done by gaining a comprehensive understanding of patients' specific needs based on their lifestyle factors, challenges they encounter while managing their condition, their nutritional requirements based on the stage of their kidney disease and other coexisting conditions.

CGH's dietitians work together with the other care team members to ensure that patients' nutrition care plans

are in close alignment with their overall medical management. In cases where patients are unable to meet their nutritional requirements solely via food intake, the dietitians prescribe oral nutritional supplements to bridge the gap.

"The flow of knowledge in the patient-therapist relationship is not unidirectional. Sometimes, my patients come up with creative dietary strategies that have proven to be effective for them. These insights can be shared with other patients facing similar challenges."



Ms Lee Dao Xin, Dietitian, CGH, provides medical nutrition therapy for patients.



# INNOVATING for patients and the community

Changi General Hospital (CGH) introduces the first smart vending machine for Pharmacy Only Medicines in Singapore.



Above: CGH Pharmacy team with PharmaSIS.

## Pharmacy Only Medicines on the go

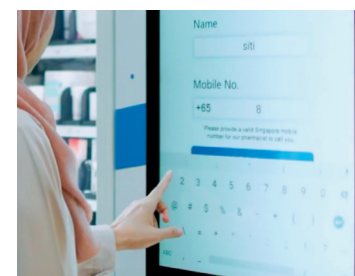
The latest in a series of CGH pharmacist-led innovations is the **Pharmacy Smart Interface System (PharmaSIS)** — the first smart vending machine in Singapore to offer access to Pharmacy Only Medicines by providing on-site teleconsultations with a pharmacist. Conceptualised with the aim of providing customers with timely and convenient access to medicines, this innovation transforms the way Pharmacy Only Medicines can be dispensed in Singapore and empowers the community to take charge of their own health through the management of minor ailments.

Under regulatory requirements in Singapore, Pharmacy Only Medicines can only be purchased under the supervision of a pharmacist at or from a licensed retail pharmacy. For the purchase of Pharmacy Only Medicines at PharmaSIS, a CGH pharmacist

## HOW TO USE PHARMASIS



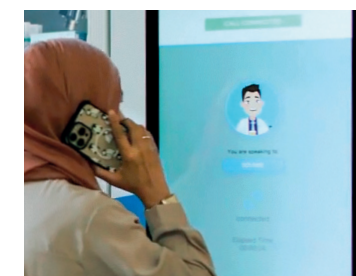
1. Search and select medication.



2. Input name and mobile number.



3. Scan ID for verification.



4. Speak with the pharmacist.



5. Pay and collect medication.



PharmaSIS aids consumers in the selection of medicines based on their minor ailments.

consumer confidentiality as key considerations.

PharmaSIS is installed with smart safety measures. For example, medicines are stored in a controlled environment as PharmaSIS has an automated temperature and humidity control system. A real-time video feed allows the pharmacist to monitor the process to ensure that the correct type and quantity of medicines are dispensed and collected. Key information on over-the-counter medicines is also displayed on the interactive screen to aid consumers in the selection of medicines.

PharmaSIS received approval from the Health Sciences Authority to dispense Pharmacy Only Medicines in April 2023.

The innovative smart vending machine has since garnered interest from public agencies and grassroots leaders. CGH is looking to deploy PharmaSIS machines at community centres in Simei and at the CGH Community Nursing Posts to support our community nurses in their work, such as smoking cessation initiatives.



Scan the QR code to watch the video on PharmaSIS.



## SMART MEDICINE STORAGE AND RETRIEVAL

Recognising the increasing healthcare needs of an ageing population, the CGH Pharmacy team has utilised automation to optimise the hospital's processes at its outpatient pharmacy.

Developed in 2018, the integration of the **Outpatient Pharmacy Automation System (OPAS)** at the CGH Medical Centre Pharmacy brought about positive outcomes for both patients and pharmacy staff. The automation ensured accuracy in items packed via the unit, and reduced overall packing time by almost half, resulting in annual savings of 16,000 man-hours and allowing CGH to serve an increasing patient load. The success of OPAS at CGH has spurred the Pharmacy team to introduce an additional automation unit at the hospital by April 2024 to further enhance safety and efficiency.

The conventional role of pharmacists has evolved and expanded significantly over the years, from focusing primarily on the accurate dispensing of medicine, to collaborative prescribing, optimising medication safety and empowering patients through education. In providing trusted care to patients and the community, and innovating healthcare for tomorrow, CGH's Pharmacy Department plays an active role in developing technological solutions.

**Dr Jonathan Seah, Head, Pharmacy, CGH** said, "CGH's dedication towards innovation is deeply ingrained in our Pharmacy team. We continually explore and implement smart solutions to connect with patients, enhance the care experience and improve health and medication literacy, with the aim of optimising patients' health outcomes and helping them stay healthy."



# Enhancing Mental Wellness in the Community

**Changi General Hospital's (CGH) Health Wellness Programme (HWP) brings mental healthcare for patients closer to home.**

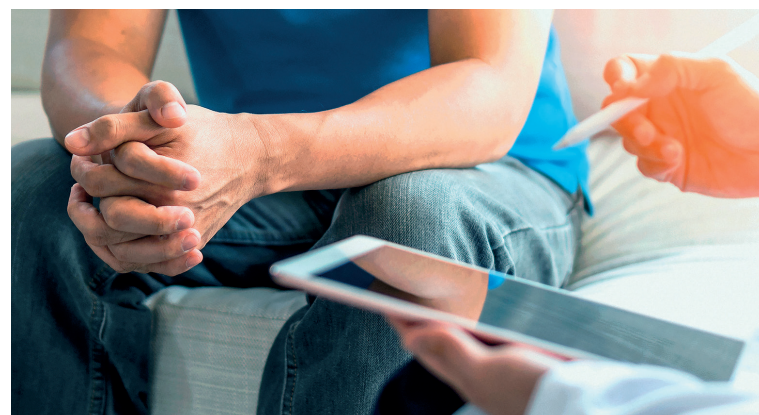
Thomas had a difficult childhood. He was bullied and ostracised by his classmates in primary school. This caused him to develop low self-esteem and a fear of rejection. In secondary school, a series of miscommunications with a group of friends caused him to develop strong feelings of self-blame and shame. Despite his struggles, Thomas initially did not seek help as he was concerned that his family would think negatively of him if he was diagnosed with a mental illness.

Over time, Thomas felt increasingly isolated and lonely. His mood became more depressed and irritable. He was frequently anxious and experienced panic attacks. He lost interest in his hobbies, and had difficulty sleeping and concentrating on his studies. He also started feeling worthless and thought of ending his life.

Facing mounting emotional distress, Thomas sought help from his regular general practitioner (GP), who recognised his need for early specialist mental health interventions. Thomas' GP, who is part of CGH's GP Mental Health Network, referred him to see a psychiatrist under the HWP's fast-track clinical service. Within a week, Thomas had his consultation at CGH's Psychological Medicine Centre.

After Thomas shared his problems and underwent a comprehensive clinical assessment, he was diagnosed with major depressive disorder (clinical depression). This is a condition that is caused by a combination of factors including biochemical imbalances in the brain and psychosocial factors such as stressful life events. Thomas was prescribed an antidepressant medication and referred to a community mental health intervention team (COMIT) near his home to see a counsellor for psychotherapy.

After three months of treatment, Thomas' mood and anxiety improved significantly. Thomas and his parents were appreciative of



the holistic treatment approach used to treat his condition, which combined medications and psychotherapy to equip him with the skills to cope better with stress and bolster his self-esteem. They also appreciated the convenience of receiving care in the community.

## Partnering community care providers to support mental wellness

The HWP is a CGH-led community mental health programme that started in 2013. It initially focused on bringing care to the community by delivering psychological interventions to patients referred by GPs in the eastern region of Singapore. This initiative sought to bridge a gap in access to subsidised mental healthcare for patients with mild to moderate mental health conditions outside the hospital.

## CGH's Health Wellness Programme

- ▶▶ Provides fast-track clinical assessment, diagnosis, and treatment for persons with mental health conditions.
- ▶▶ Develops capabilities of community partners through training and professional support, equipping them to provide quality mental healthcare in the community.
- ▶▶ Provides clinical leadership in supporting persons with mental illnesses in their recovery journey and developing communities of care to promote mental wellness in the community.

By Clinical Assistant Professor David Teo, Consultant Psychiatrist, Department of Psychological Medicine, CGH

## A PATIENT'S JOURNEY WITH THE CGH HEALTH WELLNESS PROGRAMME

A patient sees a GP or visits a polyclinic that is part of the CGH HWP partner network. Patients with mild to moderate mental health conditions receive care from physicians who are equipped to manage these conditions. HWP's team of psychiatrists, clinical psychologists and counsellors provides clinical guidance as needed.

Patients with more complex or severe conditions are referred to the HWP and given an early appointment with a psychiatrist at CGH's Psychological Medicine Centre.

At CGH, patients receive specialist mental healthcare. Patients whose conditions are suitable may be referred to a community partner for psychological interventions and social support.



For their exemplary contributions to healthcare leadership and administration, patient care, education and research, the CGH HWP team won the **SingHealth Excellence Awards 2023 Distinguished Team Award**.

"CGH's HWP collaborates with a host of stakeholders to enhance mental healthcare in the community. We believe that through empowering and working with community partners to provide our patients with quality mental healthcare, we can better meet our patients' needs and support them in their recovery journey. We feel most gratified whenever we see our patients overcome their illnesses and go on to lead fulfilling lives once again."

— CGH Health Wellness Programme team

As the mental health landscape in Singapore evolved, various social service agencies started offering psychological interventions for mental illnesses. The HWP evolved to take on a leading role in training, equipping and supporting partner organisations in delivering mental health interventions in the community. Through regular workshops and other training initiatives, the HWP team shares its expertise in treating a broad range of mental health conditions with over 100 community partners including GPs, polyclinics, COMITs, family service centres and other social service agencies.

Since 2020, CGH has delivered over 3,000 hours of training to its partners under the HWP, empowering them to help more people in the community through regular needs-based clinical skills training workshops and providing clinical liaison support. This has enhanced the GPs' skills and confidence in diagnosing and treating milder mental health conditions in the community. To foster greater awareness about mental health conditions and their treatments in the community, the HWP team also regularly shares on mental health topics at various public forums such as grassroots events, schools and religious organisations.

▶▶ Since 2013, **2,800 patients** have benefitted from the programme.

A pilot study conducted by the CGH HWP team found that the programme improved outcomes for patients with mild to moderate mental health conditions.

In line with the Healthier SG initiative in creating a community of care, the well-being of a patient under the HWP is shared between CGH's team of psychiatrists, clinical psychologists, counsellors and the hospital's network of community partners where appropriate. The HWP team liaises closely with its community partners throughout the patient's recovery journey. When the need arises, the HWP team provides inputs on a patient's care plan to ensure that treatment proceeds smoothly and that the patient's clinical needs are met. The HWP also provides fast-track clinical services for more severely unwell patients who require early specialist treatment in the hospital setting, thus ensuring timely access to specialist care.



# HONOURING EXEMPLARY HEALTHCARE PROFESSIONALS

For providing trusted care and contributing to healthcare leadership administration, patient care, education and research, Changi General Hospital (CGH) care team members across multiple disciplines clinched nine accolades at the SingHealth Excellence Awards (SHEA) and the GCEO Excellence Awards 2023.

## SHEA Distinguished Lifetime Achievement Award

**Dr Ng Li-Ling** Senior Consultant, Department of Psychological Medicine

"Receiving this award is an honour and a privilege. I have been blessed with the opportunity to help develop services for seniors with mental health issues including dementia. When I first started out in healthcare over 30 years ago, I discovered that working with seniors was personally and professionally rewarding. The seniors and their families really appreciate the help we offer and I am grateful for the opportunity to engage them. To my colleagues who continue to work on this important area, I encourage them to press on and do their best for our seniors and our community!"



## SHEA Distinguished Team Award

Check out pages 10-11 to read more about the winning team's Health Wellness Programme.

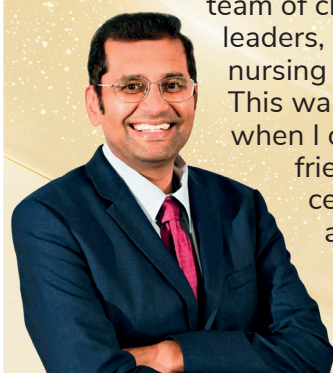
## GCEO Outstanding Clinician Award

**Dr Shree Kumar Dinesh**

Head, SingHealth Duke-NUS Spine Centre, and Senior Consultant, Department of Orthopaedic Surgery, Director and Senior Consultant, CGH-NNI Integrated Spine Centre

"As a clinician treating patients with spinal disorders and diseases, my patients motivate me. The exciting field of spinal surgery has advanced rapidly, enabling patients to recover faster after their surgery.

I am humbled and thankful for this award, which truly belongs to the remarkable team of clinicians and clinician leaders, allied health and nursing colleagues at CGH. This was illustrated recently, when I operated on a close friend with a serious cervical spinal condition and he was full of praise for the great team we have at CGH."



## GCEO Outstanding Clinician Award

**Associate Professor Chionh Chang Yin**

Assistant Chairman, Medical Board (Medical Disciplines), and Chief, Department of Medicine

"I practise in the area of Renal Medicine. Patients often come to us with complex conditions and entrust their lives to us. This motivates me to do my best for them. It is challenging yet rewarding when complicated issues can be broken down through careful clinical assessments and investigations of underlying physiological derangements. Identifying the underlying condition is an important first step for our patients.

I am honoured to receive this award; my journey as a clinician has been most fulfilling and I share this honour with my fellow doctors, nurses and allied health colleagues. I look forward to continuing this journey of learning and discovery with the team."



## GCEO Outstanding Nurse Award

**Ms Elaine Leong** Senior Nurse Manager, Ambulatory Services (Emergency Department)

"My work at the Emergency Department (ED) has evolved since the COVID-19 pandemic. With the ED operating at high capacity, I am motivated to constantly adapt and develop innovative solutions to address its changing needs, thereby improving care delivery processes for our patients and staff.

I am humbled to receive this award, and dedicate it to my ED colleagues who have worked alongside, and inspired me throughout my nursing journey. The award is an apt reminder of the importance of teamwork in this dynamic healthcare environment, as well as the need to continuously look for the silver lining in any adverse situation and persevere."



## GCEO Outstanding Educator Award

**Adjunct Assistant Professor Tan Li Hoon**

Senior Consultant, Department of Anaesthesia and Surgical Intensive Care

"Teaching is an integral part of a doctor's duty — our tutors' words of wisdom have brought us to where we are today. Medical education is very much a collaborative effort, and I am blessed to work with dedicated educators from the CGH Department of Anaesthesia and Surgical Intensive Care, Changi Simulation Institute, SingHealth Anaesthesia Residency Programme, and NUS.

These teams deliver high-quality education and examinations for medical students and doctors to ensure that we develop medical experts with a heart for our patients. Indeed, that is the reason I teach — so that our patients get the best care possible."



## GCEO Outstanding Educator Award

**Adjunct Associate Professor Yvonne Goh**

Senior Consultant, Department of Emergency Medicine

"My professional journey in medical education has been enriching and multifaceted. I draw inspiration from the opportunity to work with other tireless educators to mould the educational journeys of upcoming healthcare professionals and contribute to the progress of healthcare education. The transformative potential of education and collaboration truly spurs me on, as I witness the growth and accomplishments of aspiring healthcare practitioners. Winning this award has been a humbling recognition, affirming the value of my efforts and strengthening my commitment to achieve excellence and foster innovation in education."



## GCEO Outstanding Allied Health Professional Award

**Ms Wendy Ang** Specialist Pharmacist, Department of Pharmacy

"As pharmacists, we are guardians of the medication-use process — from prescribing, transcribing and documenting, to dispensing, administering and monitoring. In my daily work, I take on a combination of roles through various projects, including improving vaccination rates and increasing public awareness of inappropriate medication use. We continually strive to provide better care for our patients, especially the senior community.

Healthcare has been evolving over the years, and I am thrilled to ride this exciting wave of change, with the challenges that it brings. I proudly share this award with my pharmacy colleagues as an affirmation of our efforts, and an encouragement to continue to surpass ourselves!"



## GCEO Outstanding Admin & Ancillary Award

**Mr Marvin Dalde Luzon**

Senior Healthcare Assistant, Ward 25

"My daily work involves ensuring patients receive their meals correctly, and I am thankful to CGH for giving me the opportunity to upgrade my skills. With the completion of a recent training course, I can now help nurses with basic bedside nursing care, vital signs monitoring and the updating of patient information. I am always happy to see patients get better, and this inspires me to continue caring for them.

This award is a testament to the fact that no matter where you are from, everyone in the hospital plays an important role. I am appreciative of this recognition and share this honour with my colleagues at my ward."





# Nursing and Nurturing ACROSS DECADES

**Having worked at the old Changi Hospital then and now at Changi General Hospital (CGH), Assistant Director of Nursing Liu Li Chu shares about her role in developing nurses and growing capabilities over 40 years.**

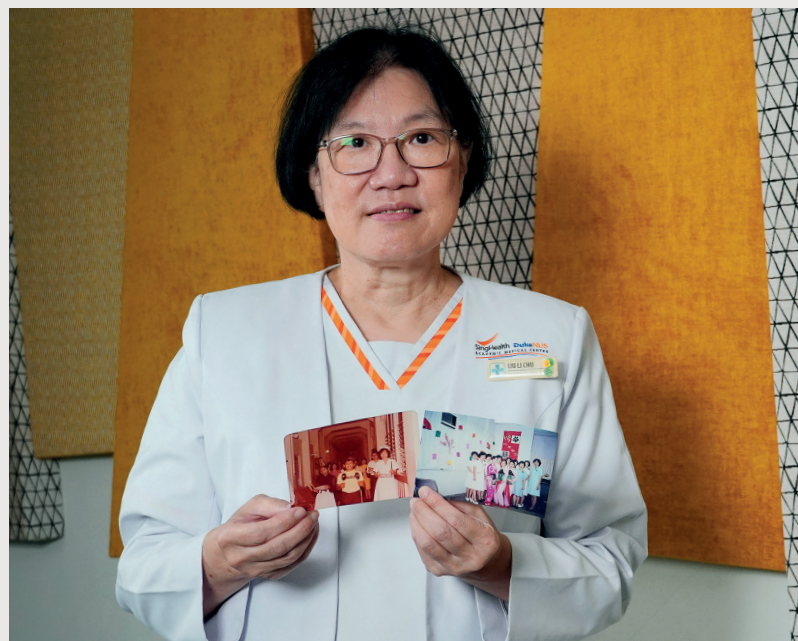
When Assistant Director of Nursing Liu Li Chu was first posted to the old Changi Hospital in 1980, she was filled with excitement. Little did she know that a big responsibility awaited her in the decades to come. Having just completed her qualifications in Critical Care Nursing, she discovered that she was the only nurse in the hospital trained in intensive care at that point in time.

“My colleagues and supervisors had high expectations of me and I had to work very hard,” recalls Ms Liu. “Fortunately, I had good colleagues who helped me to quickly adapt to the new environment. They were experienced and willing to pick up critical care skills even before full-fledged intensive care unit (ICU)-trained nurses joined the hospital.” During this time, Ms Liu also worked closely with her supervisor on improvements at the ICU to achieve optimal outcomes for patients. She enhanced the patient resuscitation process by implementing intubation kits and introducing a resuscitative medicine kit.

This steep learning curve turned out to be an ideal learning opportunity for her. “Besides delivering nursing care to patients, this also paved the way for me to take on management responsibilities later,” she explains.

## The road to Changi

Despite the hectic nature of work in her formative years, Ms Liu still fondly reminisces about her time spent at the old Changi Hospital. “The scenery was something that could not be found at any other hospital,” she says. “Then, I was working at one of the wards on the sixth floor. From there, you could see the sea and Changi Beach, and on the weekends, there were yachts sailing across,”



she smiles when recounting the scenic landscape in her younger days. When difficult and painful emotions got the better of her, Ms Liu would look out to the boundless surroundings to help herself relax.

The experience of working with the staff at old Changi Hospital also left Ms Liu with many unforgettable memories. She remembers that the physicians, nurses, allied health professionals and health attendants were very helpful, and worked together as a big family. Ms Liu's colleagues would also chat about their family lives, share advice on setting up a family and go for outings together. Regular activities such as Family Day, where family members of the staff were invited to telematch games, helped to further foster strong bonds.



Above: The nurses celebrated Nurses Day together every year.



Left: Old Changi Hospital staff and their family members enjoying themselves at regular family day activities.

At the end of the year, the staff and their family members would have carolling nights and singing events to uplift patients in the hospital. “We also had our yearly Nurses Day celebrations, where nurses of all levels and roles would participate in with gusto, reflecting the close-knit relationship of the nursing team,” shares Ms Liu.

## Making processes a priority

Although the old Changi Hospital was surrounded by greenery, Ms Liu's work there was no walk in the park. She quickly recognised the importance of streamlining work processes in the hospital.

One such area was the tracking and storage of consumable items. Every month, the staff would have to check through the ward cupboards to take stock of what was available so they could determine when to order new stock — a highly manual and tedious task.

To simplify the stock-taking process, Ms Liu created an inventory list to keep track of the remaining items. Adopting a ‘countdown method’ — where inventory numbers would be updated accordingly every time someone used an item — improved the efficiency of the process.

Ms Liu also developed a simple but effective system where faulty machines would be labelled “Out of Order” so that staff would know to avoid using them.

At the end of the year, Ms Liu (second from right) and the other nurses would go carolling at the old Changi Hospital wards.

Whenever there were new equipment purchases for the ICU, Ms Liu would evaluate the suitability of items. These included equipment such as ventilator machines, defibrillators, continuous cardiac monitoring machines and more.

## Developing nursing talents

In addition to enhancing the ward environment, Ms Liu took on more responsibilities in the areas of management and training, where she organised monthly talks for staff and ensured that they were properly trained and upskilled in order to keep pace with the improvements and new practices.

In 1994, the old Changi Hospital recruited its first two batches of overseas nurses from the Philippines and Myanmar. Ms Liu developed orientation booklets and assisted in creating nursing competency checklists to help guide the new nurses on Singapore's nursing practices. With Singapore being a multi-racial society, Ms Liu encouraged them to learn Hokkien and Malay so that they could communicate effectively with non-English speaking patients.

## On to the new

Ms Liu's stint at the old Changi Hospital came to an end in 1996 when she moved to the New Changi Hospital — now known as CGH — to oversee staff development and talent management. When she had to decide between joining CGH or moving to another hospital, it was the new hospital's quality statement at that time — “To provide a level of patient care and service good enough for our own mothers” — that set her heart on joining CGH. This statement continues to touch and resonate with her, inspiring her to continue providing trusted care to her patients through her work, and developing nurses professionally and individually.

“I have learnt over the years that leadership is not about being the best, but about helping everyone else become better,” she shares.

## Memories of CGH - Legacy of Care

In celebration of CGH's 88<sup>th</sup> anniversary, share your memories and care experience at the former Changi Hospital, former Toa Payoh Hospital or Changi General Hospital!



Scan this QR code to submit your photo(s) or video(s) of the hospital along with a description of your memory.

A sight to behold: Ms Liu used to watch the yachts from the long corridor of the old Changi Hospital.





# REMEMBERING a Sister

Colleagues of former Changi General Hospital (CGH) Senior Staff Nurse Brenda Natura share memories of her as a person and a colleague.



a close friend and neighbours who were nurses. With her father experiencing health issues, and with nine siblings to look after, she was inspired to become a nurse so that she could take good care of them as a healthcare professional.

After graduating with a Bachelor's degree in nursing, Brenda joined a public government hospital in the Philippines and worked as a nurse for more than eight years. Her interest in working in Singapore was ignited when a close friend from her hometown moved here to work as a nurse and shared about the good experience she had.

In 2002, Brenda joined CGH and worked at its orthopaedic ward. In 2015, she was part of the care team that established a new cardiology ward in CGH. At the cardiology ward, Brenda cared for patients with various medical conditions who were undergoing surgery, as well as heart attack patients who had undergone stenting (insertion of a tube to keep an artery open to allow better blood flow) or a bypass. As part of her work, Brenda also assessed and identified patients' needs, implemented and monitored medical plans, and evaluated treatment outcomes.

## Both a role model and a friend

For her excellent work, Brenda received numerous compliments from patients and their family members over her years of

service. In 2016, she received a Gold Service Award for the excellent care she provided to her patients. In addition to her clinical work, Brenda had a vibrant work life, actively participating in hospital activities such as cooking competitions and the Eastern Community Health Outreach (ECHO) programme, a health screening initiative conducted by CGH for the population in the east of Singapore.

With her wealth of nursing experience, Brenda guided junior nurses and encouraged them to maintain good practices to ensure patient safety. "She was very supportive and was like a big sister to her younger colleagues," recalls Ms Mei. "Brenda's warm personality went beyond work — despite the nurses' busy schedules, she and the team would still find the time to celebrate festivals and birthdays together."

"Brenda was an affable and caring nurse to her patients, and devoted years of service to the nursing profession in CGH," says Nursing Deputy Director Wong Wei Yui. "Many of her peers remember her as a compassionate and trustworthy senior who often shared words of encouragement. In recent years, Brenda faced the challenges in her life with great courage. It is with deep sadness and heavy hearts that we mourn the loss of a dear colleague and friend. Fond memories of Brenda will always remain in our hearts."

**"N**o matter how difficult life was, Brenda always appeared cheerful," shares Nurse Clinician Mei Zi Rong, a colleague of Ms Brenda Natura at CGH. **"Despite her medical condition, she remained dedicated to providing trusted care to her patients."**

Well-loved by those around her, Brenda had worked at CGH as a nurse for more than two decades. When she passed away in March 2023 from medical complications, a few hundred colleagues — from across her years of service — were in attendance at her funeral to send her off in tears. They knew and remembered her for her caring character, and dedication to her calling as a nurse.

## A life spent in service

In her youth, Brenda's interest in healthcare was sparked by

# HEALING the community BEYOND the hospital

Changi General Hospital's (CGH) Correctional Health care team provides a unique side of healthcare for inmates.

**S**ince 2022, CGH has been developing expertise in correctional medicine and providing quality primary and specialist care to inmates in prison, in partnership with SingHealth Polyclinics and the Singapore Prison Service (SPS). A dedicated, multi-disciplinary care team consisting of doctors, nurses, allied health professionals and administrative and operations staff from various fields oversees the holistic healthcare delivery to inmates based on their healthcare needs.

In providing the continuity of care for those who need medical care after their release, inmates are referred to CGH's specialist outpatient clinics for follow-up treatment. **"The provision of correctional health differs from that of our general population as it involves security and social-economic factors,"** says **Dr Poon Beng Hoong, Senior Consultant and Director, Department of Correctional Health, CGH.** **"As effective reintegration into society requires good health, CGH's correctional medicine programme aims to professionalise the practice, achieve evidence-based and quality care, and helps ensure the continuity of care post-release."**



Dr Poon Beng Hoong, Senior Consultant and Director, Department of Correctional Health, CGH

## LIVING HEALTHIER LIVES

A specialist in the areas of gastrointestinal and liver conditions, **Clinical Assistant Professor Eugene Wong from the CGH Department of Gastroenterology and Hepatology** is part of the CGH team that cares for inmates with gastrointestinal and liver diseases. Some of the more common conditions among inmates include hepatitis C and liver cirrhosis, but they are often asymptomatic. If not treated, these patients may develop liver cirrhosis, liver cancer, vomit blood (variceal bleeding), confusion (hepatic encephalopathy) or water accumulation in the belly (ascites).

The quality of care provided to inmates is no different from others. Inmates who require more specialised care will receive



Clinical Assistant Professor Eugene Wong provides care for inmates with gastrointestinal and liver diseases at CGH.

Photo: Singapore Prison Service



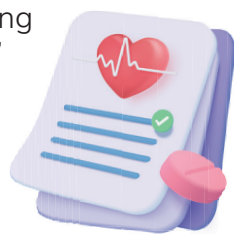
Senior Nurse Manager  
Jeremy Sng provides care for  
inmates at Changi Prison.

the treatment required, and when other subspecialties are involved, Clin Asst Prof Wong works closely with the SPS and other care team members to ensure inmates receive the care they require for complex conditions.

“Trust is a very important element in the doctor-patient relationship to achieve the best outcomes for these patients. Physicians generally have no direct access to inmates’ family members. This may pose a challenge when we need to manage patients with terminal illnesses, such as advanced-stage liver cancer,” shares Clin Asst Prof Wong. **“Our role as physicians is to always advocate for the best interests of our patients.”**

Clin Asst Prof Wong and the CGH care team focus on improving the health of the inmates, with the aim of subsequent rehabilitation to facilitate the reintegration of these patients into society. “For many inmates, being in prison is temporary. After they are released, they become another one of our patients in the community setting,” says Clin Asst Prof Wong. “It is heartening to learn that many of our patients are integrating well into society, as they continue to follow up on treatment with us after their release. Most inmates are appreciative of the medical care we provide because there is an understanding that we are there to help them.”

## NURSING INMATES TO BETTER HEALTH



As a **Correctional Health nurse, Senior Nurse Manager Jeremy Sng** goes to the Changi Prison Complex daily to provide medical care for the inmates. “I oversee the day-to-day nursing operations at the Changi Prison Complex to ensure that the inmates receive quality medical care for their conditions, which range from psychiatric conditions to chronic diseases, such as hypertension and diabetes, and heart conditions,” he explains.

Mr Sng also plays a key role in the planning, development and implementation of operational policies and procedures to provide holistic and



Photo: Singapore Prison Service

coordinated care for patients in a correctional health setting. This includes revising medical standard operating procedures for various conditions, and implementing them appropriately on the ground. Mr Sng also carries out ward rounds at the medical centres and assists with consultation services at the prison clinics. These provide him with clearer visibility of ongoing clinical operations, allowing him to allocate available resources optimally.

In this unique care setting, there is a need to balance caring for the inmates with the need to follow security protocols. “We need to have mental resilience and be able to think quickly in order to swiftly adapt to the dynamic nature of the work,” says Mr Sng. “As correctional health nurses, we are trained in diverse skillsets to identify issues, handle challenging situations, and provide nursing care to inmates with complex medical conditions.”

There have been occasions when Mr Sng and his colleagues faced inmates who exhibited reactive or aggressive behaviour. “In such instances, we remain professional while showing empathy and respect to the inmates,” he shares. Despite these unique challenges, Mr Sng recognises that the inmates deserve the same amount of respect as any other patient. **“It has been a rewarding journey alongside our inmates, as we provide care for them to help them integrate back into society with good health,”** he says.



Dr Chew Zhihong, Consultant,  
Department of Orthopaedic  
Surgery, CGH

## LEVERAGING TELEHEALTH FOR CONTINUED CARE

The pandemic has accelerated the hospital’s use of telehealth to provide care for patients from the hospital to the community. These are offered across a range of medical services — one of which is teleconsultation sessions for inmates, which are conducted by CGH Departments of Orthopaedic Surgery, Respiratory and Critical Care Medicine and Otolaryngology — Head and Neck Surgery (ENT).

CGH began planning for teleconsultation sessions for inmates in the first quarter of 2021. This was partly driven by the COVID-19 pandemic, which made physical clinic visits challenging. Since then, the CGH Department of Orthopaedic Surgery has provided teleconsultation sessions for close to a hundred inmates. **“Teleconsultation has brought about increased efficiency with the eliminated need to transport the patients physically to and from the hospital,”** says **Dr Chew Zhihong, Consultant, Department of Orthopaedic Surgery, CGH.**



Photo: Singapore Prison Service

CGH’s doctors carry out  
teleconsultation sessions  
for inmates.

Teleconsultations are conducted similarly to physical consultations — clinicians record a patient’s clinical history, identify the problems affecting patients and go through the results of clinical investigations performed at a previous visit, Dr Chew adds. “There is a specific set of inclusion criteria to determine which patients are suitable candidates for teleconsultation, but all first-visit consultations are conducted in-person as the clinicians need to perform a complete physical examination of the patient.”

Prescriptions are written electronically just like in a physical clinic and mechanisms are in place to ensure patients receive their medication prescribed via teleconsultation. If there are any new developments in the inmates’ conditions, new clinical complaints, or if the condition requires surgery or further investigations, the clinicians will assess accordingly and conduct a physical consultation instead.

“Most inmates appear to be receptive to teleconsultation,” says Dr Chew. “Teleconsultation sessions are more light-hearted, and the patients appear to be more willing to share their troubles with our doctors. Once, an inmate remarked to me that our teleconsultation session felt like a tele-visit session from a friend!”



A key aspect of Healthier SG, vaccination is a vital component of developing a health plan that includes lifestyle adjustments and regular health screening. Vaccines have been proven to be a successful, safe and effective way to protect our community against serious and life-threatening diseases. They can help to prevent serious complications and premature death, especially among vulnerable and high-risk groups such as seniors and persons with certain medical conditions.

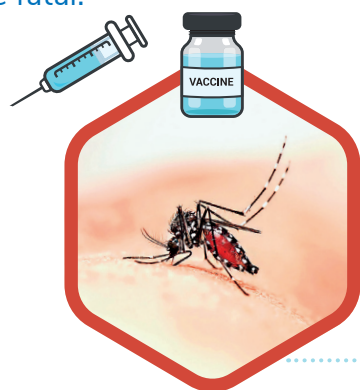
Experts from the Department of Infectious Diseases and Department of Respiratory & Critical Care Medicine, Changi General Hospital (CGH), share more about some common vaccinations.

# EMPOWERING IMMUNITY

Find out more about vaccinations and the infections they combat.

## DENGUE

There are four strains of the dengue virus, which is transmitted through the bite of infected *Aedes* mosquitoes. You can be infected with dengue as many as four times in your life, because of the different dengue strains. The majority of these infections are asymptomatic or produce only mild illness, but occasionally, there can be more severe cases, some of which may even prove fatal.



- The most commonly-administered dengue vaccine in Singapore is given by injection as a series of three doses, each six months apart.
- It is recommended for individuals who have been previously infected with dengue. The vaccine does not provide 100 per cent protection from the virus — preventing and controlling its spread also plays an important role. This includes ensuring that there is no stagnant water (which is conducive for mosquito breeding) around.



Read more about dengue here.



## INFLUENZA

The flu (or influenza) is different from the common cold and is spread when an infected person coughs, sneezes or speaks. It is caused by a group of influenza viruses, predominantly types A and B.

- Each year's flu vaccine production begins about six to nine months before the upcoming flu season. Twice a year, the World Health Organization (WHO) organises meetings for experts to determine the composition of the flu vaccine for the upcoming flu seasons due to the ability of the virus to genetically mutate itself to form new sub-types.
- The influenza vaccine is recommended for everyone, especially those who are at a higher risk of developing influenza complications, such as seniors aged 65 years and above, pregnant women, people with chronic medical conditions and children aged 6 months to 59 months. It takes at least two weeks after vaccination for effective protection to develop.



Check out the **World Immunisation Week 2023** event organised by CGH to raise awareness of the importance of immunisation, as part of its population health efforts.



## PNEUMOCOCCAL DISEASE

Pneumococcal disease is caused by the *streptococcus pneumoniae* bacterium. The disease can be life-threatening, and involves infections of the lungs (pneumonia), the membrane covering the brain (meningitis) and other serious infections. This is spread through direct contact with another person's respiratory secretions such as saliva or mucus.

- Vaccinations play an important role in protecting younger children, seniors and those with specific medical conditions against pneumococcal disease.
- As part of Singapore's National Childhood Immunisation Schedule (NCIS), infants are given three doses of the pneumococcal vaccine within their first year. Pneumococcal vaccination is also part of Singapore's National Adult Immunisation Schedule (NAIS). The number of doses an adult requires depends on their age and pre-existing medical conditions.



## SHINGLES

Shingles is caused by the varicella zoster virus, which is the same virus that causes chickenpox. Shingles manifests in the form of a burning pain of extreme sensitivity in one area of the skin, rash as well as fluid-filled blisters. The virus is spread through direct contact with fluid from these blisters.

- While children in Singapore receive the chickenpox vaccine as part of the NCIS, shingles requires a different vaccine.
- It is recommended for adults aged 50 and above, and young adults 19 years old and above with a weakened immune system due to disease or treatment. It is administered in two doses two to six months apart.







Changi  
General Hospital  
SingHealth



# Celebrating a Legacy of Trusted Care

Changi General Hospital (CGH) traces its roots back to 1935 when the old British Royal Air Force Hospital was built at Changi. The old Changi Hospital merged with Toa Payoh Hospital, and building on strong foundations of care and innovation, established what is known today as Changi General Hospital.

Today, CGH is an academic healthcare campus and tertiary referral centre that is consistently ranked among the world's best, smart and specialised hospitals. Offering a comprehensive range of medical specialties and services, CGH is helmed by a multi-disciplinary team of healthcare professionals who drive research, innovation and education to transform healthcare for positive patient and population health outcomes.

CGH commemorates 88 years of caring for the community in 2023, as **Your Trusted Care Partner, Innovating Healthcare for Tomorrow.**

THE STRAITS TIMES

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